

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-21 (Canceled).

Claim 22 (New): A mechanical part comprising:

a main direction along which there extends a central zone forming a core and a peripheral zone forming a casing that surrounds said core,
wherein said core and said casing present a metallurgical bond between each other,
said core is made of a first material presenting at least a metal matrix, and said casing
is made of a second material presenting at least a metal matrix, said metal matrices of the first
and second materials having a same base metal, and at least one of said first and second
materials is made of a metal matrix composite containing reinforcing elements dispersed in
said metal matrix.

Claim 23 (New): A mechanical part according to claim 22, wherein said base metal is
aluminum.

Claim 24 (New): A mechanical part according to claim 23, wherein said metal
matrices of the first and second materials are respectively constituted by a first alloy and a
second alloy, said first alloy and said second alloy being selected from aluminum-based
alloys of ASTM standards series 2000, 5000, 6000, or 7000.

Claim 25 (New): A mechanical part according to claim 24, wherein said first alloy
and said second alloy are selected from a same series of aluminum-based alloys selected from

said ASTM standard series 2000, 5000, 6000, or 7000, and in particular from the 2000 series.

Claim 26 (New): A mechanical part according to claim 22, wherein said reinforcing elements are particles of silicon carbide (SiC), of alumina (Al₂O₃), or of metal carbide of tungsten, boron, or titanium carbide.

Claim 27 (New): A mechanical part according to claim 26, wherein said reinforcing elements represent no more than 50% by weight of the composition of said metal matrix composite.

Claim 28 (New): A mechanical part according to claim 27, wherein said reinforcing elements represent 5% to 35%, and preferably 10% to 20%, and more preferably about 15% by weight of the composition of said metal matrix composite.

Claim 29 (New): A mechanical part according to claim 22, wherein one of said first and second materials is made of said metal matrix composite containing said reinforcing elements dispersed in said metal matrix, and the other one of said first and second materials is made of said metal matrix only.

Claim 30 (New): A mechanical part according to claim 29, wherein said first material is made of said metal matrix only which comprises aluminum as its base metal, and wherein said second material is made of said metal matrix composite containing said reinforcing elements dispersed in said metal matrix, said metal matrix having aluminum as its base metal and said reinforcing elements being made of silicon carbide (SiC) particles.

Claim 31 (New): A mechanical part according to claim 22, wherein said first and second materials are made of said metal matrix composite containing said reinforcing elements dispersed in said metal matrix, said reinforcing elements representing different percentages by weight of the composition of said metal matrix composite in said core and in said casing.

Claim 32 (New): A mechanical part according to claim 31, wherein said reinforcing elements represent a percentage by weight of the composition of said metal matrix composite that varies progressively in said first material and in said second material going from a center of said core towards a periphery of said casing.

Claim 33 (New): A mechanical part according to claim 31, wherein for said reinforcing elements, said first material presents a percentage by weight of the composition of said metal matrix composite that is greater than in said second material.

Claim 34 (New): A mechanical part according to claim 31, wherein for said reinforcing elements, said second material presents a percentage by weight of the composition of said metal matrix composite that is greater than in said first material.

Claim 35 (New): A blade constituted by a mechanical part according to claim 22.

Claim 36 (New): A low pressure compressor including stationary vanes and/or moving blades according to claim 35.

Claim 37 (New): A turbojet fan including blades according to claim 35.

Claim 38 (New): A method of manufacturing a mechanical part according to claim 22, comprising:

- a) compacting to make a semi-finished product containing a core and a casing, said core and said casing presenting a metallurgical bond between each other, said core being made of a first material presenting at least a metal matrix, and said casing being made of a second material presenting at least a metal matrix, said metal matrices of the first and second materials having a same base metal, and at least one of said first and second materials being made of a metal matrix composite containing reinforcing elements dispersed in said metal matrix;
- b) forging the semi-finished product to obtain a blank; and
- c) machining said blank to provide a finished product forming said mechanical part.

Claim 39 (New): A method of manufacture according to claim 38 for obtaining a mechanical part in which said first and second materials are made of said metal matrix composite containing said reinforcing elements dispersed in said metal matrix, wherein said reinforcing elements represent a percentage by weight of the composition of said metal matrix composite that varies progressively in said first material and in said second material going from a center of said core towards a periphery of said casing, and wherein said compacting a) includes forming the core and the casing conjointly by the powder metallurgy technique.

Claim 40 (New): A method of manufacture according to claim 38, wherein said compacting a) includes performing, in succession:

a1) using said first material to make a rod extending in a longitudinal direction, said rod serving to form said core placed in a center of the mechanical part;

a2) using said second material to make a sleeve extending in a longitudinal direction, said sleeve serving to form the casing of the mechanical part by surrounding said core;

a3) inserting the rod into the sleeve to form an assembly; and

a4) passing said assembly through an orifice of small section to reduce at least one dimension of said assembly in a direction perpendicular to said longitudinal direction to create a metallurgical bond between said rod and said sleeve.

Claim 41 (New): A method of manufacture according to claim 38, wherein said passing a4) includes rolling or extrusion.

Claim 42 (New): A method of manufacture according to claim 38, wherein said forging b) includes die stamping.